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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,935	12/05/2001	Holger Klapproth	41993	4721

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EXAMINER

FORMAN, BETTY J

ART UNIT	PAPER NUMBER
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1634

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,935

Applicant(s)

KLAPPROTH ET AL.

Examiner

BJ Forman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-14 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-14 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 29 June 2006 has been entered.

Status of the Claims

2. This action is in response to papers filed 29 June 2006 in which claim 24 was amended. The amendments have been thoroughly reviewed and entered.

The previous rejections in the Office Action dated 4 January 2006 under 35 U.S.C. 102 are withdrawn in view of the amendments. The previous rejections under 35 U.S.C. 103 reiterated below, are maintained. Applicant's arguments have been thoroughly reviewed and are discussed below. New grounds for rejection are discussed.

Claims 12-14 and 24 are under prosecution.

Priority

3. The claims have been amended to define the monomer and comonomer as having C-C double bonds. Applicant cites page 6 for support of the newly claimed monomers. The cited passage teaches an alkene group, which is a species of C-C double bonds. Additional support for the C-C double bond is found at the top of page 7 and on page 7 of the Foreign Priority Document filed 03/03/1999.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 24, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coté et al (U.S. Patent No. 6,485,703, having priority to provisional application filed, 31 July 1998) in view of DiCosmo et al (U.S. Patent No. 6,132,765, filed 15 April 1997).

Regarding Claim 24, Coté et al disclose a process for production of a polyfunctional copolymer monolayer comprising an assembly of copolymer chains attached to a surface (i.e. hydrogel adherent to a substrate, Column 5, lines 56-62) wherein the copolymer chains comprising monomers with functional groups (Column 6, lines 41-Column 7, line 59) the method comprising immobilizing a plurality of polymerization initiators on the surface (e.g. Example 2) and initiating polymerization reaction in the presence of monomers and comonomers (Column 25, line 25-Column 26, line 67).

Coté et al teaches the method wherein the monomers and comonomers have at least one C-C double bond and growing the polymer chains via polymerization including reaction of the C-C double bonds (Fig. 4 and Column 19, lines 30-46).

Coté et al teaches the method wherein the initiators and subsequent monolayer are adherent to the surface (e.g. Column 5, lines 56-62) and comprises functional groups for linking to the surface (e.g. cross-linking to another hydrogel, Column 6, lines 51-60).

This clearly suggests functional group interaction between the surface and the monolayer. DiCosmo et al teach a similar monolayer wherein the monolayer is adhered to the

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surface via linker molecules comprising functional groups (Column 5, lines 3-16) whereby the monolayer is maintained on the surface of a medical device thereby reducing device-related infections as taught by DiCosmo (Column 3, line 62-Column 4, line 51).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the function group attachment of DiCosmo et al to the monolayer adherence of Coté et al based on their desire for adherence and for the added benefit of maintaining the monolayer on the surface of a medical device thereby reducing device-related infections as taught by DiCosmo (Column 3, line 62-Column 4, line 51).

Regarding Claim 12, Coté et al disclose the process wherein the initiator comprises a thiol group (Column 25, lines 60-62).

Regarding Claim 13, Coté et al disclose the process wherein the initiator comprises a ketone group in conjugation with an aromatic system (i.e. 2-2-dimethoxy-2-phenyl-acetone) (Example 2, Column 40, line 51-66).

Regarding Claim 14, Coté et al disclose the process wherein the initiator comprises an aromatic ketone (i.e. 2-2-dimethoxy-2-phenyl-acetone) (Example 2, Column 40, line 51-66).

Response to Arguments

6. Applicant asserts that the instantly claimed "immobilization" is defined in the specification at page 4 as a "permanent fixation". The argument has been considered but is not found persuasive because the cited passage specifically teaches permanent and reversible immobilization. Therefore, the specification cannot be relied upon to define the claimed immobilization as permanent.

The expression "immobilized" is used hereinafter for an interaction of molecules with the polymer brushes resulting in the formation of a bond which is permanent under the chosen conditions. For example, probe molecules are immobilized by the polymer brushes during their application on a sensor surface. However, by changing conditions (e.g. pH-value, ionic strength) an immobilization may sometimes be reversed.

Applicant asserts that Cotes' et al teaches polymerized films adhered to the surface, but does not teach immobilized initiators. The argument has been considered but is not found persuasive because the claim is drawn to a "immobilizing a monolayer of radical polymerization initiators". As Applicant notes (§ V, ¶ 4 of the response) Cotes et al coats a surface with a mixture of initiators and polymer precursors and then performs a polymerization reaction. The instant claim language encompasses the coating as cited because the coating contains the initiator, which is immobilized (i.e. coated) onto the surface prior to polymerization.

Applicant further argues that the cited references teach hydrogels, which are three-dimensional networks. Applicant asserts that the networks differ from the polyfunctional single chain molecules as claimed. The argument has been considered but is not found persuasive because Cotes et al specifically teaches polyfunctional chain molecules as claimed (e.g. Column 22, lines 53-67). While the chains of Cotes do take on a conformation, the chains of Cotes are encompassed by the claimed single chains because the instant claim language "comprising" encompasses additional elements and because Cotes specifically teaches polymer chains.

Conclusion

7. No claim is allowed.
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

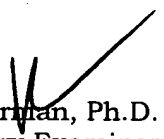
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.



BJ Forman, Ph.D.
Primary Examiner
Art Unit: 1634
August 22, 2006